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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,671	03/18/2004	Timothy G. Offerle	81095823FGT1905	2670

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EXAMINER	
TO, TUAN C	

ART UNIT	PAPER NUMBER
3663	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/708,671	OFFERLE ET AL.	
	Examiner	Art Unit	
	Tuan C To	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-8,11-18,20-27 and 29-35* is/are rejected.

7)☒ Claim(s) *5,9,10,19 and 28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 April 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 4, 6-8, 11, 13-16, 18, 20-23, 25-27, 29-32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritz et al. (U.S. 20020060103A1), and in view of Yone (U.S. 20030172757A1).

Claim 1:

With respect to claim 1, the reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1; page 2, paragraph [0028]; page 3, paragraph [0029].

Although Ritz et al. teach that the vehicle has a an electronic traction control system, a steering-supporting braking torque, in order to reduce the turning radius or improve maneuverability, Ritz et al. do not disclose the step of generating a reverse direction signal corresponding to a reverse direction of the vehicle.

The secondary reference to Yone is directed to a transmission operating apparatus for a vehicle comprising: a position detecting means for detecting the position of a shift lever manipulated by a driver (Yone, figure 1, page 2, paragraph [0023]) and the controller (4) generates a reverse direction signal in response to the reverse position of the shift lever (Yone, page 2, paragraph [0023]; figure 1, controller 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al. to include the teaching as taught by Yone so that the vehicle is prevented from producing any reactive steering assist torque which could worsen the behavior of the vehicle when the vehicle is moving rearward.

With regard to claims 2 and 4, the reference to Yone, as discussed above, includes the shift position lever detecting means for detecting the position of the shift lever. The computer (4) shown in figure 4 of Yone generates the reverse direction signal in response to the said detecting means.

With regard to claim 5, the reference to Ritz et al. discloses a vehicle system for improving the steering to combine with teaching of Yone to produce the claimed limitation of claim 1. Ritz et al. also disclose that the steering system (25) (Ritz et al., figure 1) include that the wheel speed sensor or steering wheel angle sensor. It should be noted that the wheel speed sensor detects the rotation of the wheel.

With regard to claims 6 and 7, the reference to Ritz et al. teaches that the act of braking the wheel inside the curve resulting in the additional drive torque being generated on the wheel outside the curve. And therefore, the control system generate steering-supporting braking torque on the inside curve wheel. The result is the turning radius is reduced (Ritz et al, abstract; page 1, paragraph [0014]; page 2, paragraphs [0015], [0016], [0017]).

With regard to claim 8, the system and method disclosed by Ritz et al. teaches that the steering-supporting braking is applied to the non-driven wheels (Ritz et al., figure 1, left front wheel 2VL, right front wheel 2VR).

With regard to claim 11, the vehicle system disclosed in Ritz et al. includes a steering system (24) and a braking system (30), wherein said steering system comprises a steering angle (26) for detecting the steering wheel angle when the vehicle is being braked or steered (Ritz et al., figure 1, steering system 24, steering wheel angle sensor 26).

With regard to claim 13, the system and method disclosed by Ritz et al. including the steering wheel torque is generated based on the steering system (24) and braking system (30).

With regard to claim 14, the vehicle control system and method disclosed in Ritz et al. teaches that the control system (23) monitors the vehicle velocity (Ritz et al., page 3, paragraph [0031].

Claim 15:

With respect to claim 15, the reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1; page 2, paragraph [0028]; page 3, paragraph [0029]. Although Ritz et al. teach the vehicle has a an electronic traction control system, a steering-supporting braking torque, in order to reduce the turning radius or improve maneuverability, Ritz et al. do not disclose the step of generating a reverse direction signal corresponding to a reverse direction of the vehicle. The secondary reference to Yone is directed to a transmission operating apparatus for a vehicle comprising: a position detecting means for detecting the position of a shift lever manipulated by a driver (Yone, figure 1, page 2, paragraph [0023]) and the controller (4) generates a reverse direction signal in response to the reverse position of the shift lever (Yone, page 2, paragraph [0023]; figure 1, controller 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al. to include the teaching as taught by Yone so that the vehicle is prevented from producing any reactive steering assist torque which could worsen the behavior of the vehicle when the vehicle is moving rearward.

With regard to claims 16 and 18, the reference to Yone, as discussed above, includes the shift position lever detecting means for detecting the position of the shift lever. The computer (4) shown in figure 4 of Yone generates the reverse direction signal in response to the said detecting means.

With regard to claims 20-22, the reference to Ritz et al. teaches that the act of braking the wheel inside the curve resulting in the additional drive torque being generated on the wheel outside the curve. And therefore, the control system generate steering-supporting braking torque on the inside curve wheel. The result is the turning radius is reduced (Ritz et al, abstract; page 1, paragraph [0014]; page 2, paragraphs [0015], [0016], [0017]).

With regard to claim 23, the vehicle system disclosed in Ritz et al. includes a steering system (24) and a braking system (30), wherein said steering system comprises a steering angle (26) for detecting the steering wheel angle when the vehicle is being braked or steered (Ritz et al., figure 1, steering system 24, steering wheel angle sensor 26).

With regard to claim 25, the system and method disclosed by Ritz et al. including the steering wheel torque is generated based on the steering system (24) and braking system (30).

With regard to claim 26, the vehicle control system and method disclosed in Ritz et al. teaches that the control system (23) monitors the vehicle velocity (Ritz et al., page 3, paragraph [0031].

Claim 27:

With respect to claim 27, the reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1; page 2, paragraph [0028]; page 3, paragraph [0029]. Although Ritz et al. teach the vehicle has a an electronic traction control system, a steering-supporting braking torque, in order to reduce the turning radius or improve maneuverability, Ritz et al. do not disclose the step of generating a reverse direction signal corresponding to a reverse direction of the vehicle. The secondary reference to Yone is directed to a transmission operating apparatus for a vehicle comprising: a position detecting means for detecting the position of a shift lever manipulated by a driver (Yone, figure 1, page 2, paragraph [0023]) and the controller (4) generates a reverse direction signal in response to the reverse position of the shift lever (Yone, page 2, paragraph [0023]; figure 1, controller 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al. to include the teaching as taught by Yone so that the vehicle is prevented from producing any reactive steering assist torque which could worsen the behavior of the vehicle when the vehicle is moving rearward.

With regard to claims 29-31, the reference to Ritz et al. teaches that the act of braking the wheel inside the curve resulting in the additional drive torque being generated on the wheel outside the curve. And therefore, the control system generate steering-supporting braking torque on the inside curve wheel. The result is the turning

radius is reduced (Ritz et al, abstract; page 1, paragraph [0014]; page 2, paragraphs [0015], [0016], [0017]).

With regard to claim 32, the vehicle system disclosed in Ritz et al. includes a steering system (24) and a braking system (30), wherein said steering system comprises a steering angle (26) for detecting the steering wheel angle when the vehicle is being braked or steered (Ritz et al., figure 1, steering system 24, steering wheel angle sensor 26).

With regard to claim 34, the system and method disclosed by Ritz et al. including the steering wheel torque is generated based on the steering system (24) and braking system (30).

With regard to claim 35, the vehicle control system and method disclosed in Ritz et al. teaches that the control system (23) monitors the vehicle velocity (Ritz et al., page 3, paragraph [0031].

Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritz et al. (U.S. 20020060103A1), Yone (U.S. 20030172757A1), and further in view of Kakinami et al. (U.S. 20010026317A1).

With respect to claims 3 and 17, the combination of Ritz et al. and Yone as discussed above discloses the limitations as recited in claims 1 and 15 except for the teaching of "generating a reverse direction signal comprises generating a reverse direction from a push button". The reference to Kakinami et al. has been provided to overcome the missing feature from the teachings of Ritz et al. and Yone. In Kakinami et al. patent, a shift reverse switch (3), which is shown in figure 1, for detecting the reverse

mode of the transmission shift lever. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Ritz et al., Yone, and Kakinami et al. in order to notify that the driver is trying to operate the vehicle in rearward instead of forward. And therefore, the starting speed of the vehicle is surely controlled to avoid a possible collision with the object on the back.

Claims 12, 24, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritz et al. (U.S. 20020060103A1), Yone (U.S. 20030172757A1), and further in view of Takagi et al. (U.S. 20030080877A1).

As discussed above, the reference to Ritz et al. and Yone are combined to teach the claimed limitations as recited in claim 1. Neither Ritz et al. nor Yone discloses "applying brake-steer comprises applying brake-steer in response to the reverse direction signal and said yaw rate". The reference to Takagi et al. has been provided as teaching a vehicle system for helping driver during parallel parking or driving rearward, comprising the yaw rate sensor (30) (Takagi et al., figure 1, yaw rate sensor 30) for detecting the yaw rate while the vehicle is being operated turning rearward. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al., Yone to include the teaching as taught by Takagi et al. in order to help the driver, who operates the vehicle, easily and smoothly control the turning of the vehicle.

Allowable Subject Matter

The examiner has found none of the references of record teaches the following: "generating a reverse direction signal comprises generating a reverse direction from a

push button" and "generating a reverse direction signal comprises generating a reverse direction from a wheel speed sensor", "applying brake-steer comprise proportioning brake-steer between a front wheel and a rear wheel", "proportioning comprises proportioning between the front and rear wheel in response to a transfer case mode", and "transfer case having a transfer case mode, said controller changing the transfer case mode based on brake-steer". Thus, claims 5, 9, 10, 19, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's amendment and arguments filed 11/10/2004 have been fully considered but they are not persuasive.

As interpreted in this office action, the primary reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1, page 2, paragraph 0028, page 3, paragraph 0029). In the abstract, Ritz et al. disclose as the following: "In order to improve steering support, the control system monitors the status of the transmission and/or the clutch, the control system actuating the brakes of the appropriate wheel as a function of this status in order to generate the steering-support braking torque". Therefore, Ritz et al. disclose "applying brake-steer in response to the reverse direction", wherein the "reverse direction" is considered as a status of reversing of the transmission. However, Ritz et

al. do not disclose a reverse direction signal actually, therefore, the reference to Yone has been provided to overcome the missing feature Ritz et al. It is quite clear to look through the drawing of figure 1 of Yone, there is a forward/backward direction sensor (3) for providing the input signal to the controller (4). For that reason, the combination of Ritz et al. and Yone would be proper to address the claimed limitations of the present application.

Conclusions

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (703) 308-6273. The examiner can normally be reached on from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and none for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

/tc

January 12, 2005

THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3600